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ABSTRACT

This paper explores the idea of a complementary alternative to the entrepreneurial university, with special reference to South African higher education. Emphasis is on the contribution of higher education to equitable social renewal of three inter-related issues: (1) changing global conditions and the tensions between high-tech development and basic reconstruction; (2)the relationship between teaching, research, and community service (outreach); and (3) the potential for community service partnerships and community service learning to contribute to basic reconstruction and development. The paper first identifies key changes in the external environment of higher education, noting the tensions that result from the competing interests of private investors and transnational corporations and the needs of the majority poor. The replication of this tension in South Africa's current macroeconomic and higher education policy environment is then discussed. The paper describes a hybrid range of community-oriented projects which include three necessary elements: problem-based, inquiry-rich academic training focused on community service learning; development through practical service; and civic-minded collaborative relations among participating partners. The paper concludes that the community-service partnership model represents a significant counter-trend to the entrepreneurial university. (Contains 63 references.) (DB)

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Alternatives to the Entrepreneurial University: New Modes of Knowledge Production in Community Service Programs

Paper presented at the Annual ASHE-International Conference
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4-7 November, 1998

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Introduction

It is now well known and well documented that higher education institutions world-wide currently face considerable challenges in relation to rapidly changing global conditions. A major focus of attention in current higher education policy and practice is on the adaptive responses which institutions are – and should be – making to the rapid changes in political-economic and social relations which has been characterised as globalisation and the rise of the information society.

Recent innovations in information technology and the need for flexibility and responsiveness to rapidly changing market conditions have significantly altered patterns of production and research and development. This has influenced the production of knowledge and, in turn, higher education. Coupled with the massification of higher education, ongoing fiscal constraints and growing competition from the private higher education sector, these changes have generated an intensified scrutiny of the effectiveness and efficiency contribution of public higher education to national economic development. Higher education is being challenged to become more responsive to societal needs and to emerge from its myopic absorption with the detached concerns of ivory tower academia.

For the most part, the contribution of institutions towards society is conceptualised within a techno-economic paradigm in terms of economic development by addressing the research and personpower needs of business and industry. This has led to the emergence of the "market" or "entrepreneurial" university, which increasingly serves private sector interests. The entrepreneurial university is characterised by closer university-business partnerships, by greater faculty responsibility for accessing external sources of funding, and by a managerialist ethos in institutional governance, leadership and planning. It thus entails increasing market-like behaviour among both management and faculty. These developments have disrupted the traditional disciplinary-based organisational features and functions of higher education. The prevailing economically-oriented paradigm and ideological underpinnings of globalisation are in direct

tension with the social purpose of higher education and its contribution towards the public good, social renewal and basic development. However, alongside these high-tech developmental preoccupations, concern has been growing for this other side of the responsiveness of higher education to societal needs, namely, its contribution to the public good and to a more equitable society in which the basic needs of all are addressed. This is particularly so in the developing world context.

This paper identifies the notion of a complementary alternative to the emergence of the entrepreneurial university with special reference to the conditions and context of South African higher education. It draws from a variety of international and local South African cases in which community partnership programmes between higher education institutions, government and communities provide the organisational structures.

I focus on the contribution of higher education towards equitable social renewal through the lens of the three sets of inter-related issues: a) changing global conditions and the tensions within this between high-tech development and basic reconstruction and development; b) the impact of this on higher education and, in particular, the relationship between teaching, research and community service (outreach); and c) the unique potential of community service partnerships and community service learning and the patterns of knowledge production within these to contribute towards basic reconstruction and development.

The main claim in this paper is that these innovative programmes are significant in three respects. First, driven by community concerns for social equity and redress, these community-oriented programmes constitute an important model for developing a complementary alternative to the seemingly inevitable and ubiquitous drift towards the entrepreneurial university, corporate interests and the private good. This alternative provides the organisational and cognitive domain for actualising the contribution of higher education towards social renewal and the public good. Second, in doing so, these innovations offer conducive conditions for the potential integration and mutual enrichment of teaching, research and community service. Third, situated in the social and community context, the knowledge so produced through the integration of these three functions, displays characteristics highly reminiscent of the socially distributed, applications-driven, so-called "Mode 2" knowledge production which is currently so much the focus of critical attention (Gibbons et al, 1994, Walshock, 1995; Gibbons, 1997; Gibbons, 1998). My principal concern, however, is not with issues of epistemology and philosophy of science regarding whether these activities conform strictly to the Gibbons thesis or not. Instead, I am interested in identifying the organisational features of new knowledge production that effectively addresses community and reconstruction and development goals, thus fulfilling the broader social purpose of higher education and offsetting the negative impact of globalisation.

The paper builds on previous research, publications and presentations (EPU, 1997; Subotzky, 1997a; Subotzky, 1997b; Subotzky, 1997c). I draw more extensively on current international and local literature and case studies, and from research into local community service programmes which I recently conducted in the Western Cape region. These form pilot studies for a major larger collaborative project, shortly to be operationalised in South Africa, on the contribution of higher education to development in the context of globalisation. This study will investigate new modes of knowledge production and the appropriate building of research capacity in the light of this. The present paper therefore represents work which is very much in progress.

I begin by identifying the key changes in the external environment surrounding higher education. I then proceed to identify briefly the fundamental tension within globalisation, namely, the competing interests of private investors and transnational corporations and public concern for the basic needs of the majority poor. The replication of this tension in South Africa's current macro-economic and higher education policy is then identified.

I then discuss the impact of globalisation on higher education, setting out the main adaptive responses of higher education, both in terms of the growth of entrepreneurialism and the increasing concern for higher education's contribution to equity and the public good. International and local case studies of programmes serving community development needs are discussed as exemplars of community service partnerships. These cases, I conclude, (potentially at least) produce knowledge similar to Mode-2 through the integration of teaching, research and community service. They thus provide models for actualising the social purpose of higher education and for counterbalancing the trend towards the entrepreneurial university.

Globalisation and its impact on higher education

Globalisation, the process of intensified transnational economic and social relations leading to complex socio-economic changes, has had a profound impact on both business and higher education. Recent developments in information technology and the need for flexibility and innovative responsiveness to rapidly changing market conditions have significantly altered patterns of production and research and development. This has influenced the production of knowledge and, in turn, higher education (Gibbons et al, 1994; Walshock, 1995; Schuler, 1995; Kraak, 1995; Gibbons, 1997; Scott, 1997; Slaughter and Leslie, 1997; Currie and Vidovich, 1998; Polster and Newson, 1998). In pursuit of international competitive advantage knowledge, governments have encouraged closer links between business and higher education. The production of new knowledge is increasingly occurring within new forms of social organisation. High-tech research is being conducted in collaborative business, government and university-linked consortia, specially established to meet the short-term needs of specific clients or problems. As higher education is a key player within this, these new formations and processes have understandably had a profound effect on the organisation of higher education research and graduate training in relevant fields. As Kraak (1995: 1) observes, "it is this critical nexus between knowledge, innovation and co-operation which provides a new perspective on higher education's relationship with society and the economy".

The tensions underlying globalisation

These global developments and their counterparts in higher education are neither uniform nor unproblematic with regard to the specific interests which they primarily serve. In considering the impact of globalisation on higher education, it is essential to identify underlying ideological currents.

Globalisation is widely seen to be the outcome of doctrines aimed at serving the hegemonic interests of world capitalism (Smyth, 1995; Chomsky, 1997; Kraak, 1997; Orr, 1997). Following the prescriptions of the neo-liberal consensus, nations are urged to adopt structural adjustments which create conditions conducive to unprotected trade, to the free flow of capital to ensure access to markets and the repatriation of profits and to speculative short-term investments. This entails restraining state control of the economy and state spending and encouraging the pursuit of export-led policies. Failure to follow these injunctions purportedly leads to loss of competitiveness in the global market.

Critiques of neo-liberal doctrines have identified fundamental tensions and contradictions underlying them. These have implications for determining South Africa's macro-economic policy and, in turn, for current and future higher education policy and serve as the point of departure in formulating a critical complementary alternative to the marketisation of higher education.

Firstly, neo-liberal globalisation involves increasing determination of national economic policy by transnational corporations (TNCs) and therefore the decline of national sovereignty for host nations as they progressively become subject to such policies (Smyth, 1995).

Secondly, and related to this, these structural adjustment strategies are aimed at creating local economic conditions which maximise short-term speculative investment and TNC profits as opposed to the basic needs of the majority within the host nation. By their very nature, these corporations enjoy autonomy and remain politically and socially unaccountable to anyone but their own ruling interests. This typically leads directly to a dual internal economy, consisting of the resource-rich export-oriented minority sector into which investments are poured, and the other sector serving the home market of the majority who are increasingly marginalised and become irrelevant to the production process and consumption (Smyth, 1995: 44). It has long been recognised that redistributive policies aimed at meeting basic domestic needs are in fundamental conflict with demands for a political and economic climate conducive to private investment (Chomsky, 1997). Much of the global capital flow involves short-term speculative investment which is often diametrically opposed to national long-term interests and economic development, particularly if there is a redistributive agenda. The current turmoil in emerging financial markets bears striking testimony to the vulnerability of developing countries to the damaging effects of hostile and manipulative short-term currency speculation of this sort.

Thirdly, the underlying notion of the free market is something of a myth (Chomsky, 1997; Marais, 1998). Rapid and prosperous economic growth - for example in the East Asian emerging economies - occurred precisely where the orthodoxy of neo-liberal market principles was subverted, where the state controlled capital flight and assured greater equity and where protectionism was retained. Without state intervention, growth occurred, but equity was compromised as there was minimal distribution of wealth.

Indeed, in the midst of current responses to the crisis on world financial markets, left-leaning critics such as Chomsky have been joined by mainstream economists (Sachs, 1998; Fischer, 1998) in calling for the reconstruction of the architecture of the global financial system. Some form of regulation or buffering of the large capital flows which have been so detrimental to some emerging economies is being proposed. Implicit in this call are crucial shifts in attitudes among establishment figures which would have been unthinkable 15 months ago: that a liberalised and deregulated world economic system does not spell unparalleled global prosperity (Marais, 1998); that this flawed "free" market mechanism favours the minority rich short-term speculators in the north to the vast detriment of developing countries; and that the growing global interdependence which is the consequence of globalisation renders everyone vulnerable to market fluctuations resulting from short-term speculation.

Fourthly, and leading from the above, an elaborate historical double standard has persisted regarding the myth of the free market. Those countries advocating these principles have never, and still do not apply them reflexively. Chomsky (1997) argues that Britain and the USA turned to liberal international policies only once their dominance in world markets was assured. Prior to this various forms of market interference by the state (such as protectionism) were practised.

Other aspects of the negative effects of globalisation have been documented (Martin and Schumann, 1997; Currie and Vidovich, 1998). The inter-governmental organisations which manage the integration of world markets (World Trade Organisation, North Atlantic Free Trade Agreement, IMF/world Bank) are frequently at variance with the social response of civil society (Sonntag, quoted in Currie and Vidovich, 1998). Related problems include the privatisation of public resources and the proportional relocation of manufacturing activity to East Asia and the poorer regions which has led to deterioration in average wages, stability and other conditions of employment.

In favouring the minority rich in both the north and the south, globalisation has widened the wealth gap. Through the integration of consumer markets, the process of globalisation has created new inequalities and threatened peripheral consumer interests and rights. Inequalities in

the concentration of wealth are such that the world's richest three people have assets exceeding the combined wealth of the 48 least developed nations (UNDP, 1998).

The South African Case

South Africa represents a stark and vivid microcosm of these global tensions and the world-wide challenge of balancing globally oriented economic development and basic reconstructive development. Given the miracle of its peaceful political transformation, the just social and moral cause underpinning the ruling African National Congress and its sustained struggle against apartheid under Mandela, and its prominent position in the non-aligned movement, South Africa holds the promise of constructing its new public policy framework in such a way as to mediate these tensions and to critically challenge the negative implications of globalisation. It thus provides an interesting comparative case in which to observe the outworkings of these political economic tensions as a backdrop to understanding higher education policy.

As Tierney and Kempner (1997) argue, the local political economic context and culture provides the key to understanding the characteristics of national higher education systems. In examining this, and the cases of higher education initiatives directed towards social renewal below, I adopt a modified version of Tierney's theoretical framework which he calls "critical postmodernism" (as proposed by Giroux and applied in higher education by Tierney). I therefore divert for a moment to set out Tierney's position, which underlies my approach to the main issues at hand in this paper.

Critical postmodernists "combine critical and postmodern theories by framing their investigations in a cultural perspective that addresses the inherent oppressive nature of social reality" (Kempner and Tierney, 1996: 3). From this anthropological perspective, "the effects of culture are central to understanding what and whom are valued and devalued in a society" (ibid.). This view thus combines concern for identifying and addressing fundamental social inequalities with an understanding that key constructs such as knowledge are contingent on ideological and other specificities which comprise the culture of a specific society.

Understanding a nation's educational structures and policies therefore depends on looking for deeper cultural explanations of its social structures, its political-economy and its position in global relations. In higher education, this approach emphasises the history and culture of the specific environments in which higher education is situated and how this shapes universities, knowledge production and academic work in national contexts. Tierney (1996: 11) argues that "knowledge is a social construct dependent upon institutional and national contexts, as well as the discipline and profession". Unlike the traditional view of scientific knowledge which assumes universal validity and objectivity, Tierney develops a "cultural perspective on knowledge production". The core of this position is that "individuals and groups are interpretative beings who are in a constant state of reconstruction of their worlds" and consequently that "individuals and groups define knowledge not merely through an objectively situated context such as a research project but also through the historical and social situations in which individuals find themselves" (Tierney, 1996: 15). In this perspective, the cultural context of a specific environment directly shapes organisational culture, structures, functions and practices in the academy in that particular society (Kempner and Tierney, 1996: 2). Specific countries and their systems therefore "have their own unique circumstances that must be recognised if we are to truly understand the social role higher education plays in a particular country" (Kempner and Tierney, 1996: 5). It is in this light that the relevance, purpose, and quality of higher education can be approached not in relation to abstract universals, but rather in terms of its contextualised fitness to purpose in relation to national development priorities and higher education policy goals. In South Africa, current policy frameworks provide an immediate frame of reference in these terms.

A comprehensive account of the South African political-economy and its current attempts to position itself within global relations is of course way beyond my scope here. I therefore limit myself to a few overarching observations.

South Africa is now nearing the first five years of its post-apartheid history. Since the 1990 unbanning of political opponents to apartheid and the release of Mandela and others, an almost entirely new public policy framework has been established to reverse the ravaging injustices and inequalities of apartheid. The first democratic election in 1994 was followed by the formulation of a highly progressive new constitution and an array of legislative measures and policies across all sectors. Simultaneously, South Africa has gradually reinserted itself in the international context, grappling with the challenges of positioning itself within the rapidly changing global scenario. Given its deeply divided social order, South Africa remains a "dual, but integrated" structure of South African society shaped by apartheid and largely determined along racial lines. This consists of a relatively advanced, globally interconnected political-economy and social order dominated by the white minority, which is linked to the relatively underdeveloped, poor, mainly black majority. The former has depended on the latter in many critical ways for its existence and reproduction (Wolpe, 1995). Characteristic of this dual society is the extreme disparity between the powerful rich minority and the poor majority.

The tension in South Africa's macro-economic policy manifests in its dual development imperative of simultaneously seeking hi-tech global competitiveness and the redistributive task of addressing the basic needs of its impoverished majority. The broader tensions underlying globalisation are thus replicated within South Africa's emerging macro-economic policy and, as we shall see shortly, in its higher education policy goals.

Given the socialist leaning of the African National Congress during the years of anti-apartheid resistance, the unanticipated moderateness of its current macroeconomic policy may appear somewhat surprising. This bears testimony to the persuasive power of the neo-liberal global consensus. The new government has instituted something of a voluntary structural adjustment programme designed to create a conducive climate for foreign investment, to win World Bank and IMF favour and to assuage the concerns of local business. It has therefore positioned itself squarely within the prevailing neo-liberal paradigm of unfettered capital flows and monetarist fiscal restraint, while retaining a broad moral and political commitment to redistribution and reconstructive development. This duality manifests in two strongly contested and contradictory policies:

a) the export-led high-tech competitive engagement in the global informational economy (what I term the *global development* path, premised on structural adjustments and redistribution through growth) and linked to the government's 1996 Growth, Employment and Redistribution (GEAR) strategy; and

b) the meeting of the basic needs of the majority of the population (what I term the *redistributive development* path, premised on growth through redistribution) and linked to the framework and goals of the government's 1994 Reconstruction and Programme (RDP).

While there has been constant rhetorical commitment to the RDP goals of meeting basic needs, not only have there been severe delivery problems and organisational haphazardness in grounding the RDP, but deep contradictions have also emerged in the formulation and implementation of macro-economic and fiscal policy measures. To name a few: while offering relief to the low income groups, the proportional tax burden has increasingly shifted from companies to individuals in order to create conducive conditions for investment. In efforts to reduce the budget deficit, state expenditure on social services, though high proportionally, is being restrained, with the result that services are inadequate to meet the needs of the poor,

despite reallocation from richer provinces to poorer ones. The easing of exchange control and other forms of regulation create conditions conducive to foreign investment and the free flow of capital, but have made the economy vulnerable to short-term speculation, the negative effects of which impact more directly on the poor. While the privatisation of state enterprises provides for the injection of huge capital for development, the ownership of parastatals is increasingly passing to foreign interests.

These developments represent significant ideological shifts in government policy from its previously more unconditional commitments to redistribution and have severely strained relations within the tri-partite alliance, comprising the ruling African National Congress (ANC), the Congress of South African Trade Unions (COSATU) and the South African Communist Party (SACP). In particular, recent sustained opposition by COSATU and the SACP to the ANC's GEAR strategy has been premised on the argument that it fundamentally favours the global development path at the expense of RDP concerns and the interests of the poor.

Smyth's notion of "settlement" is useful in understanding these shifts. Following Seddon, Smyth defines a settlement as "an unstable truce between social forces which defines a historically specific relationship of state and civil society" (quoted in Smyth, 1995: 43). Such political relationships manifest as a "distinctive framework for public policy". Settlements are "contested and contradictory, but persist for a time, giving a period of history a particular qualitative character." When this breaks down, a crisis emerges in which social forces struggle to define a new social order. Conflict is intensified and issues are debated and contested until a new settlement arises - a "new pattern of social forms and boundaries".

Assuming a theory of the state which views it not as a single unified entity, but as a set of agencies, departments, tiers and levels often in contestation and conflict, we can comprehend the state to be, in any historical context and particularly so in times of transition or crisis, "pursuing an interlocking [set] of mutually contradictory strategies." (Smyth, 1995: 42) The current contestations and contradictions around the two main elements of macro-economic policy, which broadly speaking reflect the interests of the two main constituent elements of South Africa's dual society, can be readily understood in these terms. This, as we shall we, is replicated within higher education policy, which is a particularly transparent site for these contradictions, situated as it is between the state, the economy and private interests.

Clearly, South Africa must seek a "settlement" and follow a complementary development path which seeks to accommodate the inherent tensions between global and reconstructive concerns. This raises the question: what possibility is there for developing a complementary alternative to the seemingly inevitable thrust towards a world order based on the neo-liberal consensus? It is beyond my scope (and expertise) here to begin to explicate how these should or could be effectively balanced and I restrict myself to a few pertinent points.

In pursuing a "settlement", there are two clear lessons for South Africa which arise from the critiques of neo-liberalism set out above and current events. Firstly, there is just cause in the inherent tensions and contradictions of globalisation to review critically the neo-liberal orthodoxy. The present conjuncture provides an important historical opportunity to conceptualise and consolidate complementary alternatives which will facilitate simultaneous pursuit of a global and a redistributive development path.

Secondly, given the critique of globalisation outlined above, there is a justified role for state intervention and regulation, not only towards redistribution, equity and redress, but also to ensure growth and development. However, assuming a strong state role implies exercising strong political will in the face of the seemingly overwhelming neo-liberal consensus. It also entails fashioning an internal redistributive development path which avoids the pitfalls of bureaucracy and authoritarianism. A strong state role is also required to steer the national higher education

system towards more equity and more effectiveness in contributing towards *both* global and reconstructive development. As shall be argued in the final section of the paper, the state must function as the engine of community development partnerships, to mirror the generative role which the private sector plays in fostering entrepreneurial research in university-industry partnerships. In turn, this approach necessitates creating a framework for the effective contribution of higher education towards redistributive development. Some consideration of what the central features of this might be are outlined below.

Higher education policy in South Africa

Emerging higher education policy in South Africa is characterised by the tensions in the wider national and international economic and political imperatives. The national higher education system has undergone a fundamental restructuring. The 1996 report of the National Commission on Higher Education (NCHE) provided the framework for the reconstruction of the higher education system and laid the foundation for the government White Paper on higher education and the subsequent Higher Education Act. This framework borrows heavily from international financing, quality assurance and national qualifications models, mainly from the UK, Australia and New Zealand.

These policy documents call for a unified, equitable, well planned, programme-based system, the final shape and size of which will ultimately be determined by the nation's emerging dual development path and by equity considerations. Of particular importance will be, firstly, to overcome the prevailing mismatch between higher education and the demands of (both the developing and high-tech) economy, and secondly, the reduction of the severe race, gender, geographic and institutional inequalities which are the legacy of apartheid.

Given the contestations within various higher educational constituencies within and surrounding the ruling party and its alliance partners, the formulation of higher education policy takes on the character of a "settlement". Tensions were clearly evident among stakeholders during the formulation of the NCHE report and the subsequent Green, Draft and Final White Papers on Higher Education Transformation. The main contested issue was the varying emphasis placed on directing higher education towards the global economy as opposed to serving the basic needs of the poor majority.

The final White Paper showed numerous references to and a balanced consideration of both global and reconstructive development priorities. The opening paragraph charges higher education with the responsibility of laying the foundations "for the development of a learning society which can stimulate, direct and mobilise the creative and intellectual energies of all the people towards meeting the challenge of reconstruction and development" (Department of Education, 1997: 7). Likewise, the purposes of higher education in the context of contemporary South Africa must "contribute to and support the process of societal transformation outlined the RDP, with its compelling vision of people-driven development leading to the building of a better quality of life for all". It must also "provide the labour market, in a knowledge-driven and knowledge dependent society, with the ever-changing high-level competencies and expertise necessary for the growth and prosperity of a modern economy" (ibid.). Higher education "must provide education and training to develop the skills and innovations necessary for national development and successful participation in the global economy" and must be "restructured to face the challenges of globalisation" (ibid.: 9).

However, in this broadly stated rhetorical formulation, these goals remain contradictory challenges. The nature of the entrepreneurial university, as we shall shortly see, has been well documented in the literature. However, the policy debates are comparatively silent on the notion of the redistributive and reconstructive development function of higher education, and what this

might entail in the South African context. I shall argue in the final part of the paper that the community service partnership model offers one possible approach to this.

In order to pursue this further, I now examine the way in which globalisation has shaped higher education.

The impact of globalisation on higher education

The effect on higher education of the rapid changes in political-economic and social relations which have been characterised as globalisation has been well documented (Gibbons, *et al*, 1994; Gibbons, 1997; Slaughter and Leslie, 1997; Carnoy, 1998; Currie and Vidovich, 1998; Polster and Newson, 1998). In discussing this, I focus first on the accounts of some of these writers, and then on Gibbons' argument concerning the shift towards new modes of knowledge production and the implications of this for higher education. It against the backdrop of these changes that the importance of community service partnerships will be argued in the final section of the paper.

The emergence of the entrepreneurial university

These developments in higher education has given rise to the "entrepreneurial" or "market" university (Dill, 1997; Orr, 1997; Slaughter and Leslie, 1997; Tierney, 1997). This has changed, not only the epistemological and organisational forms of knowledge production and dissemination, but also the role of the state in relation to higher education (Orr, 1997; Kraak, 1997; Scott, 1997). In essence, the wider implications of the entrepreneurial university are:

a) changes in the form, focus and dissemination of knowledge involving:

- the commodification of knowledge and the shift towards "Mode 2" knowledge (see below)
- research increasingly funded by non-statutory, private commissioned sources
- new forms of quality and evaluation, including performance indicators
- the emphasis on science and technology fields rather than non-commercialisable research
- technology transfer through business-university research partnerships, consortia and specialist units, leading to proprietary intellectual rights
- the fragmentation of teaching and research

b) changes in the control and governance of higher education, involving:

- increasing corporate influence and the changing role of the state in relation to higher education
- alternative funding sources - bidding for state funding and contracts on the basis of institutional competition, entrepreneurialism and managerialism.

In response to constrained fiscal conditions and increased competition, many institutions have positioned themselves strategically to function in this increasingly entrepreneurial environment to maintain a competitive edge, as trends in innovative universities bears out (Clark, 1995a, 1997b, 1998). Some universities have appointed new kinds of "knowledge workers" – entrepreneurial scientists. University academics are increasingly having to assume entrepreneurial and fund-raising roles. Academics across the board are now faced with developing skills in interdisciplinary and team project management and networking, and in dealing with the media and an increasingly better informed general public.

Universities are clearly functioning increasingly as market or market-like organisations, which is what defines "academic capitalism" (Slaughter and Leslie, 1997). These authors show that, against the backdrop of global markets, the indicators of academic capitalism are: the

development of national policies that target faculty-applied research, the decline of the block grants as a vehicle for state subsidy and the concomitant increase in faculty engagement with the market. In industrialised countries, common conditions arising from the emergence of a global market are reduced fiscal allocations for social welfare and education, and increasing allocations for building corporate competitiveness. This has impacted directly on the shaping of research and teaching priorities towards the commercialisable science and technology fields and away from the social sciences, humanities and education. At national level, shifts from basic and curiosity-driven research to commercial or strategic research. In the countries studied by Slaughter and Leslie (US, Canada, Australia, UK), national policies shaped higher education strongly towards academic capitalism, using the rhetoric of maintaining global market shares, creating national wealth, increasing the number of higher paying jobs, and building prosperity. Increased access and participation rates were encouraged with reduced costs, higher fees and a change from student grants to loans. Preference for departments close to the market was exhibited with a shift towards entrepreneurial research. In most cases, higher education planning was being integrated into national planning process which emphasise economic development. Financing patterns changed accordingly towards market-like behaviours, with institutions, which are largely dependent on state funding, focusing on maintaining and expanding revenues in an increasingly competitive environment. Increased funds were accrued from market activities, private gifts, grants and contracts and other competitive sources. Expenditure on instructional activities declined and that on research, public service and administration increased.

Furthermore, Slaughter and Leslie track the way in which the advent of the global economy has impacted on faculty behaviour. Management strongly encourages entrepreneurial activities among faculty: developing income-generating products and marketable services, consulting, business linkages, inter-disciplinary partnerships and knowledge production in ongoing enterprises, and producing income from technology transfer activities which provide intellectual property. The authors report that these measures are generally positively regarded by applied scientists and faculty in professional schools, especially the external links, heightened prestige and added monetary benefits. These faculty saw entrepreneurial work as "extension of the research in which they were traditionally engaged or, in the case of intellectual property, as a justifiable extension of that work" (Slaughter and Leslie, 1997: 20). Junior, post-doctoral fellows and graduate students generally held less favourable views towards academic capitalism.

Market pressures were also seen to be changing academic epistemology. Faculty engaged in academic capitalism were reconceptualising knowledge in such a way as to value entrepreneurial research more highly, especially that on the leading edge of science and technology and innovation. The combination of the professional norm of altruism and income-generating market-like activities were somewhat in tension. The distinction between basic and entrepreneurial research appears to be blurring and merit was being more widely interpreted beyond traditional publications to incorporate entrepreneurial activities. One of the effects of budget devolution to operating units is the loss of the concept of the university as a community, in which individuals are oriented primarily towards the greater good of the organisation. These changes have led to a decline in undergraduate education in public research universities through the reduction of block grants, which has resulted in the discretionary expenditure of these funds in more market-oriented activities.

Similarly, in tracing three ways in which globalisation has impacted on higher education in Australian universities (privatisation and corporatisation, accountability and decision-making), Currie and Vidovich (1998) identify the wholesale assimilation of efficiency paradigm. This is based on performance indicators, quality assurance exercises and quality audits, which they interpret as the tightening of central governmental control. Their research shows that, as a result of managerialism, academics feel excluded from decision-making and that the academic function of the university has been made secondary to managerial imperatives. Through globalisation, market and business practices have been inserted into universities with what these authors regard

as "serious negative ramifications". The focus on increased accountability is perceived by many faculty as a growth in bureaucratic procedures. Decision-making has become increasingly non-participatory as a direct result of increasing managerialism. There has consequently been a perceived decline in collegiality. Faculty expressed a sense of frustration and alienation arising from increased student loads and other income generating activities, from reduced time to contribute towards new knowledge, reflect and exchange ideas.

Likewise, Polster and Newson, (1998) identify growing infringements on professional autonomy of faculty as a result of globalisation and managerialism. This is manifests as reduced participation in decision-making, being pressured to secure partnership funding, the erosion of intellectual property rights and the marginalisation of the public sphere. Towards a strategic response, these authors propose asserting "a more robust and public-serving notion of autonomy". This is not to be construed as a retreat into the conventional ivory tower notion of autonomy, but rather to interpret autonomy in terms of "actively and continually responsive to the public interest"(Polster and Newson, 1998: 6). In this way, the negative effects on the profession of globalisation can be counteracted and the contribution of higher education towards the public, rather than the private, good can be asserted.

With the notion of the entrepreneurial university and the implications of globalisation on higher education having been addressed, I now turn to Gibbons' account of new modes of knowledge production and the implications for higher education.

The Gibbons Thesis: New forms of knowledge production and its impact on higher education

Gibbons et al (1994) argue that we are witnessing a fundamental shift from what they term "Mode 1" to "Mode 2" forms of knowledge production. Gibbons' most recent exposition of this thesis (Gibbons, 1998) identifies the relevance of higher education in the 21st century in terms of the imperative to adapt and respond organisationally to these new modes of knowledge production. In the light of the central importance of this thesis in the literature, I now briefly outline and comment on Gibbons' assertions and the implications he draws for higher education, and particularly in the developing country context. This provides a useful point of departure for the purposes of this paper in identifying the alternative to the entrepreneurial university.

Gibbons defines the relevance of higher education explicitly in terms of the current changes in knowledge production. He argues that universities are currently largely organised in accordance with the structures of disciplinary science, which he refers to as Mode 1. Gibbons characterises the emerging new mode of knowledge production as Mode 2, that is, knowledge which is produced in the context of application (Gibbons *et al*, 1994; Gibbons, 1998). The main attributes of Mode 2 knowledge production is its transdisciplinarity, its heterogeneity and organisational diversity, the heightened social accountability and reflexivity which accompanies it, and new forms of quality control which emanate from it.

Gibbons argues that during the past two decades, a "new economically-oriented paradigm of the function of higher education in society has gradually emerged" (Gibbons, 1998: 1). The high-minded Humboldtian pursuit of knowledge for its own sake has been supplanted by the view that universities "are meant to serve society, primarily by supporting the economy and promoting the quality of life of its citizens" (ibid.). The critical function of universities has been, in this perspective, replaced by a more pragmatic role of providing qualified personpower and the production of relevant knowledge.

The organisational development of the modern university arose from the process of disciplinary specialisation and sub-specialisation of knowledge. Increasingly, as a result of Mode 2

knowledge production, faculties and departments have become organisational and administrative units rather than intellectual categories. The real academic unit has become the programme, research unit or, in its more mobile and quintessentially Mode 2 form, the rapidly assembled and transient research team.

Gibbons highlights the importance of partnerships, interaction and collaboration in knowledge production. Given the nature of Mode 2 knowledge production, universities which "intend to practice research at the forefront of many areas, they are going to have to organise themselves ... to become more open, porous institutions, more aggressive in seeking partnerships and alliances, than they are currently" (Gibbons, 1998: 10). The best universities are those which display adaptive responses will identify as part of their core values and missions, partnerships, interaction with other knowledge producers and lifelong learning. They will have to adjust from being adept producers of (mainly disciplinary) knowledge to being creative reconfigurers of knowledge in solving increasingly complex problems. The new "dynamics of relevance" for higher education are being shaped by two processes. These are the massification of higher education and the impact of globalisation and international competitiveness which shape the cognitive landscape in which higher education institutions increasingly operate.

In this context, universities are likely to incorporate within their stated missions, the commitment to technology transfer and will increasingly reflect this in its organisational structure and resource allocations. It is my contention that this technology transfer can and should be directed not only towards collaborative partnerships with business in the interests of economic development. It can and should also be oriented towards partnerships aimed at community development and, in this way, actualise the institutional mission of community service.

The conduct of research in the context of application as well as its distributed nature mean that contemporary science cannot remain within the confines of university departments or academic centres. This is prompting the emergence of a host of new institutional arrangements, linking government, industry, universities and private consultancy groups in different ways. Gibbons drives home the point that universities are "now only one knowledge producing agency amongst many in an economic order where knowledge and skill are the principal commodities being traded" (Gibbons, 1998: 30). In order to remain relevant, they will have to adapt themselves to play a collaborative role within a larger, more complex environment. The massification of higher education and the diffusion of research-trained graduates has increased the number of potential research sites outside of the academy. Coupled with the growing needs of the knowledge society, this leads to the core of Gibbons' thesis that "the parallel expansion in the numbers of potential knowledge producers on the supply side and the expansion of the requirement of specialist knowledge on the demand side are creating the conditions for the emergence of a new mode of knowledge production" (Gibbons, 1998: 33).

However, the tradition of university-based research is threatened by the encroachment of industry and the mentality and values of profit-making (Gibbons, 1998: 13). The process of contributing specialist knowledge as part of the innovation chain draws universities deeply into the competitive arena. With the intensification of international competition, Gibbons argues that "the extraction of economic benefit from university research ... is now a matter of concern (Gibbons, 1998: 30). This transformation is far reaching because it draws the universities "into the heart of the commercial process".

Understanding complexity through a Mode 2 curriculum

Gibbons argues that, in the context of massification and increasingly complex social problems, a diversified higher educational landscape is emerging in which institutions address a number of knowledge missions: the conduct of basic, applied, clinical and collaborative research and expert consultation, the award of undergraduate degrees, professional training, the contribution to life-

long learning, interaction with civil society and the offering of a number of direct services (Walshock, quoted in Gibbons, 1998: 38).

In the light of this, curricula must focus on problem-solving skills, interpersonal communication, and learning to learn. This is especially so given the shift of scientists towards the understanding of complex natural and social systems, and the resultant emergence of transdisciplinarity. To understand such problems, requires a problem-centred transdisciplinary approach (Gibbons, 1998: 39). Accordingly, "the spread of Mode 2 transdisciplinarity into the curriculum requires a shift from discipline-based to problem-based learning" (Gibbons, 1998: 40). It involves more than the hybridisation of the disciplinary structure. Genuinely transdisciplinary curricula involve teaching programmes which develop the necessary core skills to apply knowledge in creative ways. They are oriented to understanding complex systems and are based on participation in problem-solving teams. As we shall see, this is mirrored exactly in the community service learning context in which problem-based learning is pursued along with community development through partnerships as a core value.

The tendency arising from Mode 2 is to divide structures that support undergraduate teaching and research. However, Gibbons argues cogently that in order to prepare corps of knowledge workers with developed required skills and insights into complex systems, programmes would be increasingly infused with inquiry-based learning. The benefits of this, as Clark (1997a) notes, are enhanced learning and better preparation for the complexities of modern life.

The developing country context: partnerships or perish

The understanding of complexity is especially relevant in the developing country context. For Gibbons, Mode 2 presents opportunities as well as threats for universities in the developing world. He makes it clear that Mode 2 does not supplant Mode 1, but co-exists with it. The key question – and a significance one for my purposes – is whether a culture of Mode 2-type research serves the needs of developing societies more effectively than a culture of Mode 1 type disciplinary science. Mode 1 knowledge generally does not provide application in the context, except in the long term through applied knowledge. In the developing world, Gibbons suggests, a certain impatience towards disciplinary science is emerging. The understanding of complex problems is precisely what is needed in the developing world. As a result, transdisciplinary groups are being formed to tackle problems, especially in health and medicine, environmental studies and risk analysis. Gibbons highlights the importance of Mode 2 knowledge in the developing country context in arguing that

> To meet both national and community needs a different organisation of knowledge production than Mode 1 is required. The elements of that organisation lie not necessarily in the wholesale abandonment of Mode 1, but rather in the developing of linkages between Mode 1 and Mode 2 … The key elements [are]: a focus on understanding complex systems, an intellectual orientation towards problem-solving, the use of computer simulation and modelling techniques. The teamed involvement of broad ranges of interest and expertise. All countries possess particular complexes of natural resources, local ecologies, and distinct economic and political systems. These could become the objective of exhaustive research, the more so if local teaching programmes were oriented to providing problem-solving skills. As soon as one begins to focus on understanding complex systems, the need for different types of expertise becomes obvious – and the need for partnerships and alliances becomes imperative (Gibbons, 1998: 54).

Although Gibbons does not explicitly refer to community partnerships, the applicability of this approach is obvious. The key concept to grasp is that understanding complex systems requires the use of shared resources. Gibbons refers to several examples from developing countries, arguing that these models exist in many different areas of research. These share similarities with the cases which are discussed below. The key thing is that "these initial experiments are forerunners of future models, and that many more of them will be needed to cope with the

complexity of local environments and the needs of local communities" (Gibbons, 1998: 54). The findings of my research concur exactly with this.

The dilemma faced by universities of the developing world, Gibbons argues, is that they are locked into a disciplinary-based mode of knowledge production, that they are capital dependent, and oriented towards problems which are relatively context free (Gibbons, 1998: 53). However, as we shall see, instances of Mode-2 type community-oriented programmes in South Africa's historically black universities, and increasingly in the historically white universities as well, counter this. Many community service programmes, especially now at previously conservative and racially divided Afrikaans institutions, suggest that there is an increasing focus on locally contextualised problems. At first, this was the preserve of the historically black universities which, like the historically black universities and colleges in the USA, tended to express a closer historical commitment to uplifting disadvantaged communities.

Gibbons argues that the challenge and great opportunity for universities of the developing world is to

> ... use their Mode 1 resources to extend their capabilities by means of programmes of collaboration in which the sharing of resources in central. This effort at extension will draw these universities into the distributed knowledge production system, focus their attention on the needs of their communities, direct their efforts to the understanding of local and national complex systems, and, in the end, create a new culture of teaching and research – with relevance built in! If science will not help to solve the problems that the developing countries face, then maybe research should be given a chance (Gibbons, 1998: 55).

It is for these reasons that South African analysts recognised the potential of a Mode 2 orientation improve the effectiveness of programmes directed towards national development goals (Kraak and Watters, 1995; Kraak, 1997; Subotzky, 1997a,b,c).

This view has implications for development assistance to higher education which has largely spread and reinforced the conventions of the Mode 1 paradigm and facilitates the control of global disciplinary agendas by elite academics in the developed world. This potentially obstructs universities in the developing world to prioritise local research problems, forge relationships with the local productive sector, and serve local communities. The 1970s ideal of the African "development university" was unrealised, partly as a result of the reluctance of foreign-based academics to embrace problem-oriented approaches.

In considering the developed world, Gibbons almost exclusively interprets the meeting of societal needs and enhancing the quality of life in terms of the contribution of higher education to economic development. However, he does claim that Mode 2 knowledge production generates broader benefits beyond the economic. Although he exemplifies Mode 2 only in relation to knowledge production, it has "co-evolutionary effects in other areas, for example in economics, the prevailing division of labour, and the local sense of community" (Gibbons, 1998: 34). Nonetheless, in explaining the social accountability and reflexivity of higher education, Gibbons rather optimistically overstates the case. He argues that, "contrary to what one might expect, working in the context of application increases the sensitivity of scientists and technologists to the broader implications of what they are doing" (Gibbons, 1998: 9). This is because "the issues which forward the development of Mode 2 research cannot be specified in scientific and technical terms alone". The implementation of solutions are "bound to touch the values and preferences of different individuals and groups which have been traditionally seen as located outside of the scientific and technological system" and who now "become active agents in the definition and solution of problems as well as in the evaluation of performance". Likewise, Gibbons argues that new forms of quality control of Mode 2 research extend beyond the closed confines of conventional peer review and incorporate a more diverse range of intellectual, social, political and economic interests.

It may be true that trans-disciplinary teams which include social scientists and other stakeholders may have these consequences. However, this remains a process highly contingent on the power relations implicit in the process. In contending that "social accountability permeates the whole knowledge production process" (ibid.), Gibbons ignores the considerable control which corporate interests bring to bear on the agenda, shape and findings of research and composition of the teams. Indeed, conspicuously omitted from his overall analysis, dominated as it is by the techno-economic terrain, are the political dynamics of research (Kraak, 1997). Likewise, as Muller (1995: 10) reflects, "What this burgeoning of technology-carried knowledge work will do for communities, solidarity and citizenship is not yet clear. There is much talk of 'virtual community'. But real local communities don't go away: they just become less tied into the knowledge and power networks". By contrast, I argue below that genuine community partnerships, where the component interests are recognised and validated, provide a much more viable model for the social accountability of research.

The purpose of this rather extended exposition of the Gibbons' thesis was to provide a backdrop against which the nature and significance of community partnership programmes and community service learning can be sketched. In the final section of the paper, I first trace the parallels features of these programmes to Mode 2 knowledge production and then argue that these constitute important models for the development of complementary alternatives to the prevailing emphasis on serving societal needs exclusively through globally oriented economic development.

Community partnership programmes: cases of alternatives to the entrepreneurial university

The concern about the contribution of higher education to community development mirrors the growing world-wide scrutiny of the broader purpose of higher education in relation to the impact of globalisation. In response to evidence of the growing disparity between ivory tower academic norms and societal needs, the contribution of higher education towards the public good and social development is being rigorously reviewed (Fairweather, 1996, Tierney, 1997). This concern has been accompanied by a new emphasis on the policy dimension of research, on establishing collaborative linkages with government and the private sector, on the reappraisal of the service and outreach function of higher education (Terenzini, 1996; Keller, 1998). In calling for more relevance in higher education research, Terenzini (1996: 10) states that "we must consider why we do research and write". He asks pointedly: "Do we write for publication and, thereby, enhanced prospects for promotion and tenure? Or do we write to make a difference in the lives of others?" (ibid.). Terenzini does not present this as a dichotomous choice, but contends that the overlap is far smaller than it might be. Significantly for my purposes, in linking the purpose of higher education research to the solving of social problems, he argues that the conventional emphasis on the narrow and single conception of research should be complemented by what Boyer (1990) called "the scholarship of application". The key feature of this, as we shall is more detail below, is that social problems define the agenda for scholarly investigation. This embodies the notion of applications-driven research. As already indicated, concern has also been expressed about the need to reclaim the meaning of academic autonomy away from ivory tower abstraction to one which is in accord with the spirit of civic responsibility (Polster and Newson, 1998).

In response to the strong link between higher education and economic growth and the recent expansion of partnerships between higher education institutions and the hi-tech corporate sphere, there is growing counter-emphasis on ways of expressing the social purpose of higher education. A review of trends in the literature on *Higher Education and the Public Good* during 1996, (ERIC 1996b: 1) suggests that "the literature and research continue to illustrate the valuable role of higher education in the important processes that underlie our society and culture". Clearly,

however, "economic development is most represented in the literature, with political and social development significantly less discussed". New ways, it is suggested, "for higher education to support these goals regionally or locally – for example, through service learning or action research – should be studied". Other related areas of necessary research which should receive focus include the impact of higher education on specific communities, the role of higher education in developing citizenship and working for global good in an increasingly challenging social context, and collaboration, which "is seen as important in strengthening the role of higher education in society and higher education's meeting needs more closely" (ibid.: 3).

In similar vein, Braskamp and Wergin (1997: 62) argue that, given the array of social fragmentation in the environment, "higher education today has an opportunity unique in its history to contribute to our society". Despite the numerous roles which higher education has played in the life and progress of society, campus is increasingly "viewed as a place where students get credentialed and faculty get tenured, while the overall work of the academy does not seem particularly relevant to the nation's most pressing civic, social, economic and moral problems (Boyer, 1996 in Braskamp and Wergin, 1997: 62). There is increasing pressure to bridge the gap between higher education and society and "to become active partners in addressing and solving our social ills and be more competitive internationally". They are being asked to offer their expertise, knowledge, analytic problem-solving skills and creativity. This is not a new development for some, but national priorities have shifted from engineering and defence, in which areas previous partnerships predominated, to other pressing social problems, including education. Higher education institutions, the authors argue, need to "reorient themselves as active partners with parents, teachers, principals, community advocates, business leaders, community agencies, and general citizenry" (Braskamp and Wergin, 1997: 64). Higher education, in their view, will enhance its usefulness to society by "becoming a forum for critical community dialogues, by advancing practice-based knowledge and policies as well as upholding the creation of theory-based knowledge, and by utilizing faculty expertise in new ways – in short, by forming new social relationships" (ibid.). The relevance of these views in relation to the main concerns of this paper is self-evident.

Community Service Learning

As part of these trends, as an increasingly important means of attempting to realise the social purpose of higher education, community service learning (CSL) has seen a rapid growth in recent times, especially in the USA (Bringle and Hatcher, 1996; Ward and Wolf-Wendel, 1997).

CSL is defined as "a form of experiential learning in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development" (Jacoby in Ward and Wolf-Wendel, 1997: 1). The distinguishing feature of this is the systematic integration of community service into the formal curriculum. The practice originated within mainstream academia during the 1970s in the USA, and focused initially on community service outreach projects. In a second phase during the late 1980s, there were more coherent attempts towards the systematic incorporation of community priorities and contexts into the curriculum, especially those applied, professional and vocational fields in which there is an intrinsic service and practicum component, such health, law and to a lesser extent initially, education. During the 1990s, increasingly in response to the conditions outlined above, there has been a trend towards the identification, at the institutional mission statement level, of CSL as a systematic way of realising the universally accepted tri-partite purpose of the modern university, namely teaching, research and outreach. This involves viewing the institution as a whole in terms of its civic responsibility.

CSL takes on different forms within the different disciplines and fields. In the Health Science field, CSL is closely linked to problem-based learning (PBL) which developed at McMaster

University during the mid-1960s and which revolutionised the medical community (Norman and Schmidt, 1992). Some thirty years later, about 60 medical schools worldwide have adopted PBL to different extents, and others are in the process of doing so, including in South Africa (see Mammen, 1996). PBL has also developed in other disciplines. The literature on CSL is growing, with several dedicated journals, institutional offices for community development, and the US National Society for Experiential Education, which has a long standing commitment to CSL.

The growing interest in the concept of community service in the South African higher education policy context arises from three developments (JET, 1998: 1). The Department of Education's White Paper recognises, among other deficiencies of the current apartheid-shaped system of higher education, its inadequate responsiveness to the development needs of society. Community service is cited as one strategy towards improving this. Simultaneously, student organisations have been motivating community service programmes in order both to contribute towards equitable social development and to financially sustain their studies. Thirdly, policy initiatives in several ministeries were basing new approaches to human resource development on the combination of academic training with a commitment to social development and civic responsibility, particularly in professional fields.

The Department of Health has already introduced compulsory community service for medical graduates and the Department of Justice is exploring this. The new subsidy formulae for higher education is likely to accommodate experiential learning. The National Youth Commission proposes a National Youth Service programme aimed at out-of-school and unemployed youth, higher education graduates and demobilised youth. Several community service initiatives have evolved in higher education institutions, including, significantly, the redefinition of some institutional missions explicitly in terms of community service learning.

Historically, a strong community service ethos emerged in South Africa during the 1980s as part of the attempt of activist academics to link their academic pursuits to the anti-apartheid struggle and to make their academic expertise available to civil society (Cooper, 1992). For these reasons, community service in higher education is seen by the left as a means of revitalising the notion of committed citizenship (Taylor, 1998:1).

Given the pervasiveness of this activist tradition in community service and outreach, the current challenge is to transform community service into activities appropriate to an academic institution. This comprises a fundamental shift among academics and management so that rigour and relevance can be linked. These, as Cooper (1992) argues, are not necessarily contradictory, as is often claimed by disciplinary purists. The main task is to ensure that knowledge is formally produced and disseminated (Kraak and Watters, 1995). Indications from the case studies which I have been conducting are that there are well developed processes of informal knowledge production and dissemination and contribution to policy formulation, but that the research and evaluation elements are largely underdeveloped. The link to curriculum development, while more evident, is also embryonic. The main challenge, then, is to develop capacity and to create the enabling conditions for service-oriented programmes to produce more formal knowledge and to feed more systematically into the curriculum.

However, the imperative for formal knowledge production does not imply remaining bound within the constraints of the traditional disciplines. It suggests an expanded sense of scholarship which includes and rewards not only conventional inquiry, but also, as Boyer (1990, 1996) argues, the scholarship of integration, outreach engagement and teaching, and as Walshock (1995) suggests, the notion of integrated teachers, scholars, professional service-providers and researchers (see also Park, 1996). This wider view of relevant knowledge accords with the expanding epistemological horizons associated with Mode 2 knowledge production, which, as indicated, Gibbons highlights.

This points clearly to the value of linking teaching, research and community service. As mentioned, the importance and effectiveness of inquiry-based learning is emphasised by Clark (1996a), who suggests that the 21st century workforce will demand complex problem-solving skills amidst growing uncertainty. The best pedagogical preparation for this is "discovery-based learning experiences" and being educated in a "discovery-rich environment" (1996a: 294). For these reasons, learning-by-discovery and teaching and learning by means of research processes must become the norm. Clark (1991, 1995b, 1997a) has definitively identified the sites in which both the integration and detachment of research and teaching occur. Community partnerships and service learning provides another important locale for the linking of teaching and research.

The close link between postgraduate studies and research offer particularly rich opportunities in this regard. However, research-based learning should not remain the preserve of the postgraduate level, but increasingly in undergraduate studies as well, and as Geidt (1997) convincingly demonstrates, community-based learning and research forms an effective method of training adult community workers.

Research-based learning is effective learning, then, in producing the skills necessary for the complexities and indeterminacy of the millennium. By extension, to the extent that programmes should increasingly be oriented towards social problem-solving and community development in order to realise the social purpose of higher education, the logic of embedding learning and curriculum development within community service programmes is persuasive.

Implications for higher education institutions

Ideally, CSL initiatives are concerned not only with the effectiveness of student learning and research opportunities, but also for the public good through community development, academic staff research and curriculum development. The notion of *partnership* is therefore central if CSL is to extend beyond student benefit and capture the ideal of the mutual benefit of community, faculty and students. This implies the joint ownership, design, control and evaluation of community service programmes so that the interests and needs of all three collaborating partners are met, namely, effective student learning and research opportunities, staff research and curriculum development, and community development. Partnerships in community service programmes often involve local and national government, NGOs and CBOs, international development agencies, local small and medium-sized enterprises. These participants are significant. As mentioned earlier, the state must function as the engine of these partnerships, providing sustainable funding and co-ordination. The advantages are enhanced and effective public service, informed by cutting edge knowledge.

However, the discourse analysis of the current literature on CSL indicates an alarming preoccupation with student outcomes and institutional interests (Ward and Wolf-Wendel 1997) at the expense of symmetry, reciprocity and mutuality in partnerships. The value of CSL appears to be perceived predominantly as a vehicle for achieving academic aims and bolstering the interests and power base of the academy rather than for fulfilling the goal of changing the social order. Potential and claimed positive outcomes for students include: more effective learning, especially with regard to lifelong learning, the linking of theory and practice; enhancing career goals; improvement in measures of social responsibility and personal efficacy; changed perspectives on social issues; exposure to other cultures and race groups; critical reflection of own attitudes (JET, 1998). While these are of course positive in their own right, they must be integrated into a social change and partnership model, if the social purpose of higher education is to be effectively pursued.

In principle, most mission statements and initiatives recognise communities as partners with campuses and call for community service to play a role in advocating for social change. In this

conception, the main purpose of CSL is to meet genuine community needs while simultaneously expanding the educational experience for students. To achieve this, the gap between "needy" communities and "knowing" campuses must be dissolved and the charitable model must be supplanted by the social change model, which focuses on the processes of building relationships within stakeholder groups in order to identify and collaboratively address root causes of complex problems (Ward and Wolf-Wendel 1997). Open attitudes, a new paradigm of service learning and the necessary interactive skills on both parts must be developed and careful planning is vital to the sustainability of collaborative partnerships. This must include proper supervision, evaluation and assessment on the premise that credit is awarded for academic learning not for service. If service is to change from an 'add-on' activity, to a central component of the institutional culture, then it must involve members of both the campus and larger communities in organic ways that meet mutually beneficial needs. Community service has the potential to play a central role in rethinking the purpose of higher education if it is conceptualised as a way of developing an ethic of care and community involvement.

To this end, a fundamental shift is necessary for academics from seeing the role of the university as providing applied knowledge to help for the solution of problems, to one in which the university is *jointly responsible* for social change in partnership with relevant bodies in the community. Under this new social contract the institution becomes an advocate for social justice (Braskamp and Wergin, 1997). The implications for higher education are that the success of such ventures depends on substantial and central shifts in the mission and focus of higher education, particularly at research universities. These changes must begin with the social contract between higher education and the greater community.

In achieving these aims, the production of social application-driven knowledge and trans-disciplinary technology transfer for community development would involve a similar sort of "Mode 2"-type technology transfer as has emerged between the "market" universities and business. Community-oriented knowledge production involves the generation, transfer and application of research findings and available knowledge by the academy within community-based partnerships and development programmes. These are largely (but not exclusively) trans-disciplinary in nature in order to accommodate the social complexities they address. It has been suggested that academics situated in historically disadvantaged institutions and in disadvantaged communities have the counter-advantage of tacit and explicit knowledge of those contexts. They have the potential to assimilate basic and applied knowledge into Mode 2 knowledge (Kraak, 1997; Subotzky, 1997a).

Taylor (1998) arrives at similar conclusions, providing a useful conceptual framework of CSL. Community service learning includes academic study, community service and structured reflection to integrate the study and service components (Taylor, 1998: 1). Three community service goals can be identified: promoting active democratic citizenship and communitarianism; utilising intellectual and other resources of higher education institutions to improve the lives of underprivileged communities through the provision of practical services; and infusing the curriculum with greater relevance through a focus on current social, economic, political and environmental problems.

These three aims embody three essential components: the academic, the practical and the civic. Where these three intersect, the community service ideal is achieved. Theoretical knowledge and practical skills are integrated; community development is undertaken; curriculum development and research are linked and shaped by problems embedded in the community. Though programmes many aspire towards this ideal; few achieve it and remain oriented to two of the three goals. When all three goals are met, all three constituencies involved benefit mutually: institutions and faculty, through greater and more relevant research opportunities; students, through enhanced learning in a more relevant and problem-based curriculum; and the community through developmentally-oriented service. Furthermore, when a genuine partnership arises and

the interests of all are addressed, social accountability of the academic enterprise is enhanced.

In analysing the interface between the academic, social and practical elements of higher education, Taylor raises important concerns about where it is epistemologically and operationally appropriate to incorporate practical service elements into academic study. He questions whether activities situated in the intersection of academic and civic concerns, such as political philosophy, ethics or jurisprudence, should necessarily incorporate a service component. Underlying the "strong" view of experiential learning – increasingly evident in the debate on community service in higher education in South Africa – is the expectation that all concepts should be grounded in practical experience. Taylor argues that this is both impractical and might degenerate into crudities which reduce the new challenges facing higher education into a simplistic forms of curriculum and pedagogy. He concludes that the successful integration of practical service activities with the academic analysis of citizenship issues depends on whether the practical element was really appropriate to the topic under study, on suitably available service sites and on efforts by faculty to link academic theory and practical manifestations.

The link between the academy and service activities is less problematically encapsulated in professional training, which assumes a close interactive link between academic and practical knowledge, between the conventional disciplines and practice. Internship, fieldwork and practical placements are intrinsic to professional training in higher education. However, the question here remains: to what extent should academic work contain a practical component and to what extent should professional training contain a civic component?

Case studies of CSL and community partnerships

A review of international and local literature, as well as case studies, reveal an interesting array of community service programmes and community service learning opportunities. These clearly are contributing towards social upliftment in diverse ways and, central to my argument throughout, constitute complementary alternatives to the entrepreneurial university.

Predictably, the most developed of these are in the health and other professional fields, but many involved inter- and trans-disciplinary elements. The Afrikaans Pretoria University, for example, has established a semi-rural satellite campus in 1993, about 50 km north of the capital, Pretoria. Here the university applies community service learning to provide a comprehensive teaching approach in which theory and practical experience are merged. The aim is to produce graduates better equipped to meet labour market demands. By integrating training with research and community service, the intention is to contribute towards the aims of the Reconstruction and Development Programme. The campus is situated in a diverse environment comprising squatter settlements, industries and a rural area and lies adjacent to a hospital, a school for the deaf, a police training college and an industrial area. Courses are presented in Medicine, Education, Agriculture, Arts, Architecture and Building Science and Sport. These contribute significantly to creating job opportunities in the communities and provide basic services such as health care, teacher training, legal aid, housing, communication pathology, social work, town and regional planning, landscape architecture and veterinary science.

Another well developed partnership programme is the Mangaung-University of the Free State Community Partnership Programme. This combines primary health services, community service learning opportunities in the training of health professionals and community development. Established in 1991, the project provides an impressive evolving model of an intersectoral, trans-disciplinary partnership between the community, academic institutions and provincial authorities, and extensive experience of overcoming the many pitfalls in establishing this. In serving the development needs of the population of about 300 000 in the impoverished Mangaung community and surrounding informal settlements, the programme involves 200 students and

lecturers from the Medical School and the departments of Nutrition, Psychology, Physiotherapy, Agriculture, Small Business Development and Education. This is one of seven national community partnership programmes funded by the Kellogg Foundation.

Similarly, the University of the Western Cape's Faculty of Dentistry Oral Health Centre was established in 1992 as a response to the oral health services needs of some 2.5 million people in the disadvantaged community in the greater Cape Town area. The Centre is a World Health Organisation collaborating site for the training of diploma, undergraduate and postgraduate Dental/Oral Health students and oral hygienists. Community-based Dental Education is provided by 115 full-time and part-time staff at the centre and at other sites in the greater Cape Peninsula as part of Faculty outreach programmes. Educational opportunities are provided to disadvantaged students from all regions of South Africa through the university's alternative admissions policy. Joint funds provided by the university and the regional government are used for training students and treating some 80,000 patients. Staff have also contributed towards local and national policy and planning of dental services. Likewise, University of the Western Cape's Public Health Programme and its Western Cape Community Partnership Programme run a variety of health personnel training courses, including postgraduate courses, within service learning contexts.

A noteworthy agricultural initiative is Natal University's School for Rural Community Development which provides certificate, diploma and degree programmes in Rural Resource Management (Luckett, 1997). This is linked to a Farmers' Support Group. Rural development practitioners are trained within a formal outcomes-based academic programme, developed in collaboration with the University of West Sydney, an agricultural college which has instituted major radical reform in curriculum and assessment. The focus is on the development of core competencies such as systems thinking, participatory inquiry methodologies, project initiation and development, oral & written communication skills and 'learning to learn'. These capabilities are developed through experiential learning in which placements in rural communities form an integral part. Open access and mobility is ensured by enabling multiple entry/exit points within the certificate, diploma and degree programmes. While the emphasis is on skills and outcomes, a research component is incorporated through problem-based community work, which is mentored by staff. Links have been established with regional councils and the state Department of Land Affairs to develop long-term sustainable rural development.

Within these projects, there is evidence that the complexity of community development is being approached through the inter- and trans-disciplinary approach mentioned by Gibbons. They clearly also provide opportunities for the integration of teaching and research within the community service setting. While there is some evidence in these cases of community service initiatives feeding back into curriculum development (JET, 1997; Henning, 1998), formal knowledge production remains the weakest link, especially in departments investigated which have heavy service and outreach loads, such as Physiotherapy and Occupational Therapy. In the South African context, most of these departments are admirably orienting towards community development, primary health care and service learning. However, research tends to be restricted to postgraduate (and to some extent undergraduate) project work, with staff research underdeveloped, especially where there are heavy service, supervision, administration and programme co-ordination loads. In some cases, time does not appear to be the only obstacle. The case studies suggests that skills and confidence, as well as appropriate knowledge and methods to turn reflective practice into formal research output are lacking. In addition, there is little evaluation of community benefits, the methodology of which is challenging and problematic (Magzoub and Schmidt, 1996). Other problems relate to the duration of service placements and the quality and quantity of supervision, and the lack of adequate resources and planning.

In many instances, the potential for formal research output is latent. Indeed, the development of appropriate research capacity-building models to remedy this and the fostering of a research culture under these conditions constitutes the focus of the planned major study mentioned above.

Interviews with a university-based teacher in-service programme focusing on whole-school development indicated that there were eminent formal research possibilities embedded in the reflective activities conducted by practitioners in their quest for greater effectiveness. There is a valid research dimension to their practice which involves critical theorising about a number of key issues, such as the nature of organisational change, the power relations involved in programmes of this sort and so on. On the basis of clearer theoretical insights generalised from practice, further more effective change and school improvement interventions can be implemented and tested through evaluation. This process articulates the close relationship between theory and practice in this process. This kind of action research clearly shares certain features with Mode 2 in that it is clearly generated in the context of application. It involves researchers and change agents other than the formal researchers, namely the school teachers and managers involved, who contribute towards the research process. In addition to the informal knowledge production which is disseminated through the action research process in reflectively improving practice, in some cases, teachers have collaborated with the university-based practitioners to produce formal research outputs in the form of joint papers. Through peer-reviewed and popular journals, these contribute towards improving school practice more widely.

This corroborates Gibbons view that knowledge production in the prototypical Mode 2 organisation is unpredictable. Creative teams identify and solve problems, which, because they cannot often be defined in advance, are not revealed in formal meetings and agendas. They emerge instead, Gibbons suggests, "out of frequent and informal communications among team members" (Gibbons, 1998: 27-8). In this way, "mutual learning occurs within the team, as insights, experiences, puzzles and solutions are shared" (ibid.).

The community partnership model parallels this directly. This captures Gibbons' assertion that "the sharp distinctions between academic and lay players in knowledge production have weakened because the latter play a key role as brokers (or even creators) of science" (Gibbons, 1998: 20). This the result of the fact that "old demarcations are breaking sown between traditional universities and other higher education institutions because both are embraced within the extended university", which – it may be added – also involves ongoing community/government partnerships. Linked to this, observes Gibbons, is the questioning of other traditional demarcations: those between theory and practice, science and technology and knowledge and culture.

Although these cases share many similarities with Mode 2-type activities, the extent to which they are genuinely so seems doubtful, especially where formal knowledge production is low or non-existent. But, as mentioned, this is not the principal point. The issue at hand is how these form complementary alternatives to the entrepreneurial university in serving the public good.

A recent case study among various non-health academic departments in higher education institutions in the Western Cape (Kraak and Watters, 1995). The study revealed clear examples of Mode 2 practices in all four disciplines investigated: Engineering, Physics, Business Management and Anthropology. Of the cases cited as indicative of 'Mode 2', many fail to capture *all* of the defining 'Mode 2' criteria as specified by Gibbons *et al.* No clear conceptual boundary between applied, contractual, and multi-disciplinary research and Mode 2 research could be drawn. Engineers, for example, claimed they had been doing Mode 2 research for 50 years. Likewise, significantly for my purposes, difficult to distinguish between action research methods implicit in outreach and socially distributed Mode 2 transdisciplinary knowledge.

The authors conclude that a "partial diffusion" of Mode 2 research practices was observable. A number of constraints contribute to this piecemeal growth, although there are also factors which are likely to facilitate and encourage 'Mode 2' research in the future. It is clear that some programmes investigated display some of the characteristics of new knowledge production,

although they still form a minority of research undertaken and though still embryonic and restricted in a number of ways. Given the various political and academic constraints and resistances towards new knowledge production, "it is unlikely that 'Mode 2' research will flourish unless policy parameters are defined to encourage and facilitate it" (Kraak and Watters, 1995: 10). The implications are that "the higher education policy framework must seek to deepen these early beginnings, for ... Mode 2 is critical both to the success of the RDP but also to the rejuvenation of our national economy as a globally competitive and knowledge-intensive resource" (Kraak and Watters, 1995: 17).

I conclude with a brief account of two education projects in the USA undertaken by faculty at the University of Illinois at Chicago (UIC) which captures these concerns in a rich way. This institution is an urban land-grant institution, has a "long history of commitment to integrating teaching, research and outreach" (Braskamp and Wergin, 1997). Active efforts were made by the College of Education at UIC to nurture collaborative relationships with surrounding schools in the region in order to improve the quality of education in the region. Its mission "stresses collaboration with schools and community agencies in preparing teachers and administrators, providing professional development for practitioners, and advancing the knowledge and understanding of educational and child development in urban settings" (Braskamp and Wergin, 1997: 65). In short, this meant that faculty engagement in K-12 education reinforced the mission of the college and the institution. This initiative was part of an ongoing campaign by the mayor to improve education.

The authors describe two examples of UIC and K-12 partnerships. The first was aimed at improving leaning opportunities by improving teaching methods, which was supported by helping parents to aid their children's educational development and by increasing day care and health programmes. The second was aimed at local school council training. Further details need not detain us here, but the some of the lessons learnt are illuminating. Those involved in collaborative work quickly learned that:

> Collaborative work often creates a conflict of institutional cultures; that political and community groups want to use the prestige of the university to enhance their agenda; that faculty members often have less *experiential* knowledge of the problem context than do teachers and reformers but compensate by using their theoretical perspectives; that failed experiments outside the academy are more visible than a failed experiment in a laboratory; that compromise is essential; that new forms of communication are needed to reach different audiences; that partnerships can be intellectually exciting and challenging; that faculty scholarship is enhanced; and that continuous support is needed for long-term impact (Braskamp and Wergin, 1997: 77-8).

In drawing out the implications for higher education, Braskamp and Wergin argue that the success of such ventures depends on substantial and central shifts in the mission and focus of higher education, particularly at research universities. These changes must begin, they contend, with the social contract between higher education and the greater community, of which there is already evidence. Renegotiating the social contract implies dispelling the public perception that academic freedom is a smokescreen for furthering the private benefit of the individual and institutional interests. The authors argue that the role of the modern university is to become more responsive to social problems and to function as a forum for the expression and negotiation of social discourse. Both of these functions have clear implications for the nature of faculty work and the focus of academic leadership.

While there are greater demands to address social ills, the academy remains largely inwardly turned, preoccupied with maximising quantifiable and rewarded publications output. Its separation from society "has been conscious, deliberate, and defining" (Braskamp and Wergin, 1997: 80). Without including communities in defining research goals and agendas, higher education institutions "will become victimised by their own myopia" (ibid.). Collaborative partnerships do not imply abandoning basic research or compromising rigour. On the contrary,

one of the lessons learnt was that faculty involved realised that "their own claims on the truth were rather fragile and incomplete" (ibid.). Likewise, faculty had to learn to bridge the gap between the meaning of research findings and the meaning constructed by those affected by the results, and between academic and political truth.

Encouragingly, against the tendency towards the increasing fragmentation and privatisation of faculty work the authors identify the emergence of "public intellectuals" who want to influence public policy. They wish to publish widely in non-academic publications and media, express their ideas in non-academic language. They are present throughout the USA, and are often black and female academics, shaped by 1960s activism, or young and concerned to integrate societal concerns into their personal and professional lives and to establish the social utility of research. They are informed by new particularist epistemologies by which truth should not be separated from personal experience. Thus, "to the extent that the emerging perspectives of scholarship are both more political and more relevant, they parallel, without necessarily paying homage to, social forces pushing for change" (Braskamp and Wergin, 1997: 83). Increasingly, particularly in land-grant institutions, research topics more often relate to social concerns. These changing attitudes coincide with increased pressure to form collaborative partnerships to address social problems. Linked to this, quality is being interpreted as fitness to utility by the intended consumers, namely, students, academics and the community. This inclusive approach need not compromise scholarship. Some institutions have attempted to classify outreach as a scholarly activity.

Drawing from other writers, the authors argue that new forms of scholarship reflect a "knowing-in-action" needed to complement conventional academic knowledge. Academics have to relinquish the notion of the priority of theory-based knowledge over practise-based knowledge and that practice is an extension of theory is inadequate to the task of dealing with the complexities of social problems. Forming new partnerships also depends largely on the public commitment of institutional leaders to this end through a variety of supportive measures. Clearly, becoming involved in social renewal involves the process of institutional transformation

In the authors' view, a key insight for my purposes is that "through partnerships, the research and instructional agenda can be intricately connected to the communities outside the academy" (Braskamp and Wergin, 1997: 87). This provides the principal means of linking academic freedom with social accountability and responsibility, of escaping the insular sanctuary of the academy and addressing the clamouring demands made on it by its social partners. In this way, the function of the modern university will be met: to be a "very active partner in shaping its social relationship with society, being responsive while retaining its core purposes and standards" (ibid.: 89).

Braskamp and Wergin's account thus provides a rich framework for renewing the social purpose of higher education. The collaborative partnerships, which allow the integration of teaching, research and community service as the principal means of fulfilling this goal, closely mirrors, and is clearly a complementary alternative to, Mode 2 knowledge production.

Conclusion

These initial findings reveal a hybrid range of community-oriented projects and partnerships with community, local and provincial government and other institutions which are directed towards social development and thus fulfil the broader social purpose of higher education. Many of them incorporate, to some degree or other, the three elements which constitute the community service partnership ideal. These are problem-based, inquiry-rich academic training, research and curriculum development focused on community service learning; community development through practical service; and civic-minded collaborative and mutually beneficial relations among participating partners. Many of the projects enjoy sustainable external donor, private

sector and provincial government funding, inter-and trans-disciplinary elements, student teaching involvement, informal and formal knowledge production and informally disseminated, and clear benefits for students in terms of the service learning opportunities and, in some cases, research opportunities.

This corroborates my contention that the community-service partnership model represents a significant counter-trend to the entrepreneurial university. The innovations identified in the case studies are directed towards the solution of social problems and clearly involve many of the features of Mode 2 knowledge production: partnerships and funding arrangements with government agencies and other institutions, an increasingly multi-disciplinary approach to social complexity and multiple funding sources. By contrast to Mode 2, these initiatives entail (at least potentially) the integration and mutual enrichment of teaching, research and community service. In this way, they serve as important sites for actualising the social purpose of higher education and of countering the negative impact of globalisation on higher education and society.

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